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## Entrepreneur and scientist: The joys of problem-solving



From Munich to America: Ulrich Rohde, joint partner in Rohde & Schwarz, is a pioneer in high-frequency and microwave technology.

Ulrich Rohde holds so many patents that he can hardly keep track. Although he is a joint partner in Rohde & Schwarz, he has lived in the U.S. for many years. Now the Bundeswehr University in Munich has appointed him honorary professor.

*By Martina Scherf*

"I enjoy solving the problems in my area of expertise that have defeated other people. Usually, people just don't have the drive or strength of mind to persevere with them," says Ulrich Rohde.

This sounds modest, as the engineer, scientist and entrepreneur has solved problems of such importance that he has acquired dozens of patents, multiple professorships and numerous prizes – so many that he has more or less lost count. The Bavarian Academy of Sciences made him an honorary member – the

only other being Franz, Herzog von Bayern (Franz, Duke of Bavaria). In another sense, what he says also reveals something about his character: Ulrich Rohde, son of the founder of Rohde & Schwarz, knows how to persevere, is curious, and loves a challenge. Even now, at the age of 77.

When I meet Ulrich Lothar Albert Rohde, he is sitting in a meeting room at the watchmaking company Leinfelder, which he recently bought. It's in a prime location in inner-city Munich, behind the Bayerischer Hof Hotel, and has a fine showroom to display the tradition of craftsmanship. In order to get these small, technological masterpieces made, Rohde bought a former hotel near Dresden, where the delicate gear mechanisms are now produced. "I found it exciting to do it myself. There was no other company on the German market which could have done it like this." Rohde loves watches, so why not buy and develop his own watch company? He is wearing a cornflower-blue turtleneck and comfortable pants, and on his wrist gleams a gold watch. "I had it made to my own design, it's all genuine Saxon craftsmanship, just feel it," he says as he passes the valuable timepiece across the table. It's heavy.

A weakness for mechanical watches is in his genes. "My father developed the first wearable quartz watch," he explains. Lothar Rohde was also an inventor, as were both his grandfathers: one was a chemist and amateur radio enthusiast, the other developed a process for liquefying coal to make petrol.

In 1933, his father Lothar Rohde, together with his university friend Hermann Schwarz, founded a physical engineering laboratory called Rohde & Schwarz in an apartment in the Lehel district of Munich. In 1944, he was arrested for being in radio contact with England. Ulrich was then just four years old. His father remained in Dachau concentration camp until the end of the war when, in April 1945, he managed to liberate himself.

"It's not always easy to live in the shadow of a dominant father."

Today, Rohde & Schwarz is still a family business. "We are debt-free," emphasizes Ulrich Rohde. He lives in America and is now just a joint partner in the company. "I have nothing to do with the operational business," he says. Nevertheless, he is kept in the loop about all the developments. Rohde & Schwarz has long since become a global company, with 10,000 employees, and leads the market in many areas of metrology, radio and media technology, cyber security and military reconnaissance. Body scanners at airports, the majority of cell phones, the TV transmitter on the Wendelstein – all of these contain Rohde & Schwarz technology. At the moment, the company is building an "iCampus" close to its headquarters in Munich's Werksviertel, which is currently one of the city's biggest office construction projects.

Born in Munich in 1940, Ulrich Rohde initially followed in his father's footsteps, studying High-Frequency and Communications Engineering in Munich and Darmstadt. For a number of years, he was head of the military communication systems department at AEG-Telefunken in Ulm. He became a partner in Rohde & Schwarz, "but," he says, "I was happy when I was sent to the U.S. in 1974 to take over our subsidiary in New Jersey. It's not always easy to live in the shadow of a dominant father."

When Ulrich Rohde meets people, he tells them right away: "I'm an American." He feels more at home in the U.S. than in Germany. Voting for Trump was, he says, "perhaps a mistake". He saw the man as a kind of rebel, who would shake up the Washington system. As a businessman, he also thought Obamacare would have him paying too much healthcare insurance for his employees. It is the American entrepreneurial spirit that impresses him, as well as the individual freedom – he has his 18-meter sailing yacht in Florida, and he holds a gun license, too.

"A few times a year," he says, "I make a guest appearance in Germany." At one of these guest appearances recently, he received an honorary professorship from the Bundeswehr University in Neubiberg. The university is currently building a center for cyber security, and needs the expertise and experience of a "pioneer in high-frequency technology". His lecture was on the topic of one of his specialties: meta-materials. These can be used to make objects invisible, for example to radar. "Sometimes, modern technology is a bit like magic," says the inventor. As a researcher, he has always been fascinated by the unknown, by pushing the limits.

When in Germany, he likes to spend time at his house by the Staffelsee. There, he indulges his passion for radio, visits his watch factory in Saxony and "occasionally I bring a few of my ideas to Rohde & Schwarz – even though they might not always be welcomed," he says, smiling.

High-frequency technology is in many of the devices that are used by people every day, from the smartphone to the CT scanner, and it is becoming increasingly important for the military. Rohde & Schwarz recently joined forces with defense supplier Rheinmetall on a billion-euro contract for the German Armed Forces. "We are only supplying the antennas, Rheinmetall are providing the tanks," says Ulrich Rohde. However, they were not pleased when Foreign Minister Sigmar Gabriel restricted arms export, he adds.

Testing his own limits still drives him to this day

Clearly, Rohde far prefers talking about America. When he had grown weary of managing his father's company in New Jersey, he switched to an electronics company as Managing Director. There, he was responsible for military

communications – until the company was swallowed by General Electric and broken up. And, as often happens in the land of hire and fire, "they called me early one Monday morning and said: we'll be sending the personal items from your desk to your home address," recounts Rohde.

So, at home in New Jersey, he opened the newspaper, saw an advert for a bankrupt company, went there and bought it. "When I got to the site, there were only two broken-down trucks, and there were cockroaches running about in the offices," he says. "I liked the idea of creating something new from that." On that site, his company went on to make huge advances in computer-assisted developments for microwave technology, and has received many accolades.

On the side, Ulrich Rohde completed his doctorate in high-frequency technology and took courses in business administration at Columbia University in New York. He founded other companies. Then, in 2004, he obtained a doctorate from the Technical University in Berlin with his thesis on microwave oscillators. Seven years later, he gained a postdoctoral qualification at TU Cottbus-Senftenberg. Of course, he didn't need to do all this. After all, he has held two professorships in the U.S. for years, "but I wanted to know whether I could still do it," he says. His desire to test his own limits still drives him to this day.

A short time ago, he had his school-leaving certificate fetched out of the basement at the Gisela Grammar School in Munich-Schwabing. He needed it for his pension documentation, he recounts. Suddenly, he remembered sitting the English exam and how there was one crucial word that he didn't know. "I wasn't an outstanding student, not even in physics," says the professor. What he could do, however, was give an off-the-cuff explanation of the basic principles of radio technology. "You can sometimes be blinded by good grades," says Rohde, so he prefers to choose his employees based on his own impressions.

He has funded a permanent professorship at TU Cottbus, and a few years ago donated a lot of money to TU Munich. "I like to help," says Rohde. And if he can combine helping with one of his passions, so much the better. Those include photography, which is why he developed a process for noise suppression in digital cameras, so that they produce sharper images. "I then offered it to Leica, who were very pleased with it."

He says he sometimes just stumbles across things that need solving – "I seem to have a nose for it." That's when he starts thinking about the problem. His favorite kind are problems that have already left other people stumped. "That really fascinates me." As the driver of a diesel convertible, he is annoyed that his car is suddenly drawing a lot of flak for the harmful emissions it produces, and has placed this as yet unresolved problem at the very top of his agenda.

